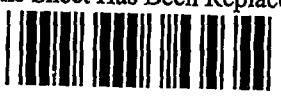
ABSTRACT OF THE INVENTION

## WAFER POSITION ERROR DETECTION AND CORRECTION SYSTEM

A water position error detection and correction system determines the presence of a wafer on a wafer transport robot blade. The system also determines a wafer position error by monitoring the position of the wafer with respect to the blade with one sensor which is located proximate to each entrance of a process chamber. When a wafer position error is detected, the system determines the extent of the misalignment and corrects such misalignment if correctable by the wafer transport robot or alerts an operator for operator intervention. The system incorporates a transparent cover on the surface of the wafer handling chamber and four optical detection sensors disposed on the surface of the transparent cover, in which each sensor is placed proximate to the entrance of the process chamber. In addition, an I/O sensor is placed adjacent the I/O slit valve to detect and correct wafer position errors. The detection sensors direct light through the wafer handling chamber to reflectors on the floor of the transfer chamber which reflect the light back to the detector sensors. A detector within the detector sensor detects when the beam path from the position sensor to the reflector is uninterrupted. As a wafer is retracted out of a process chamber or a wafer cassette, the position of the wafer with respect to the blade is measured, thus determining whether the wafer is properly placed on the wafer.

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